

# (DRAFT)

## Washington Transportation Plan Update Workshop Session

1. Highlights of Safety Background Paper
2. Topics and Issues in Roadway Safety
3. [Safety Issues in Other Modes: Later]

*This presentation is a public  
record document. It is a draft  
and will be revised as needed.  
3<sup>rd</sup> Edition last revised  
11/3/2004.*

Transportation Commission  
May 20, 2004



**Washington State  
Department of Transportation**

# Highlights of Safety Background Paper Workshop Session

**Toby Rickman**  
State Traffic Engineer

**Charlie Howard**  
Director  
Strategic Planning & Programming

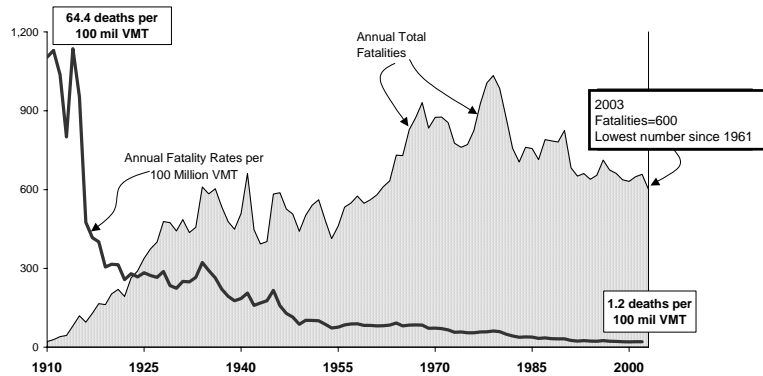


**Washington State  
Department of Transportation**

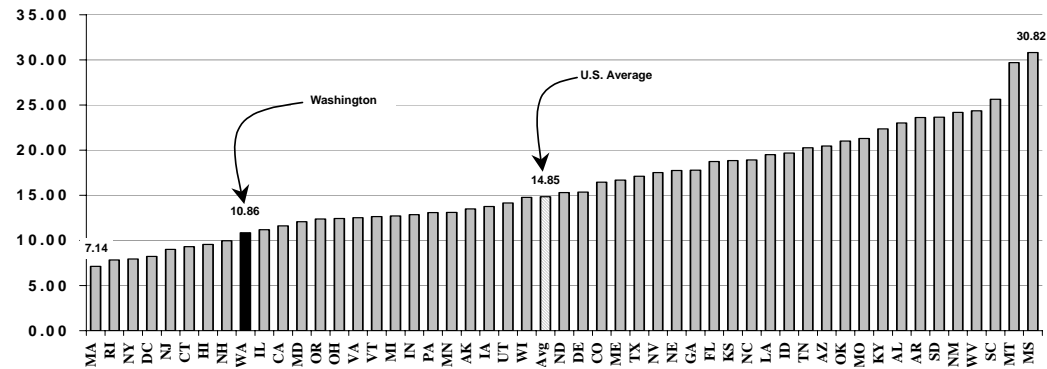
# Roadway Safety---What's going on?

**Washington Motor Vehicle Total Fatalities  
and Fatality Rates \***

1910 - 2002



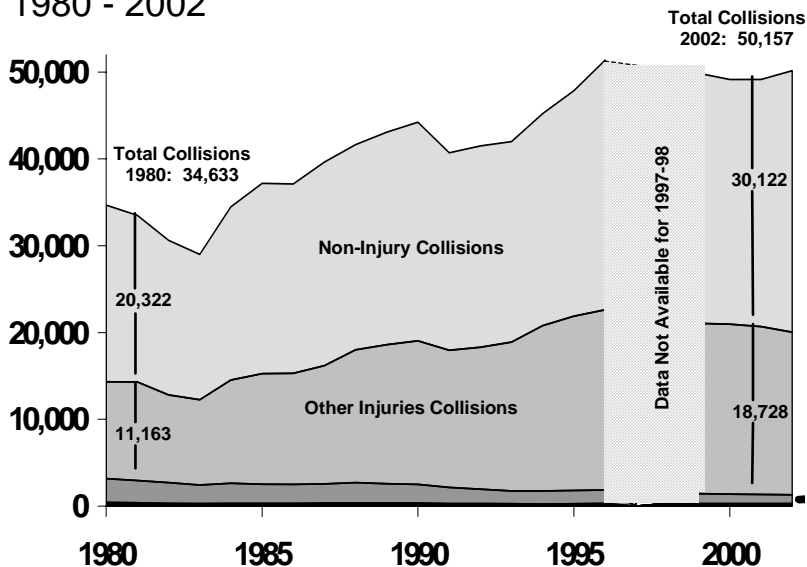
**Rate of Fatalities Per Capita in the U.S.**  
Traffic Death per 100,000 Population in 2002



# What Type and How Much?

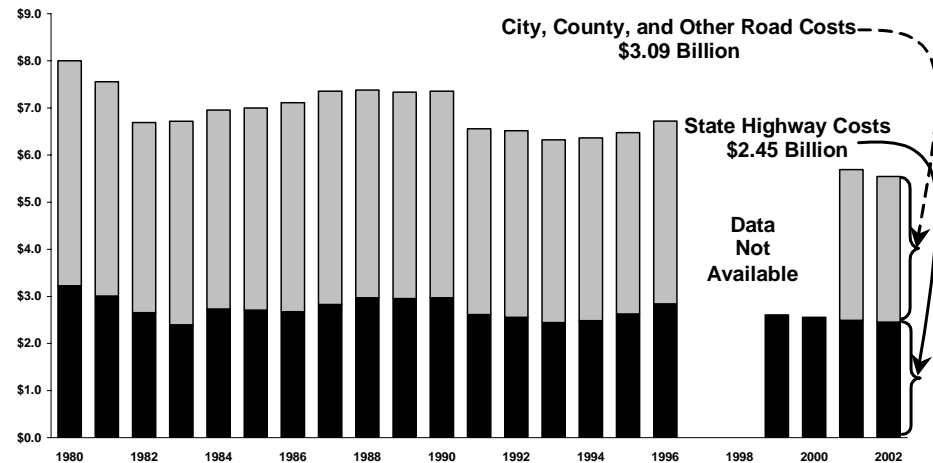
## Collision Types by Severity

Washington State Highway System Only  
1980 - 2002

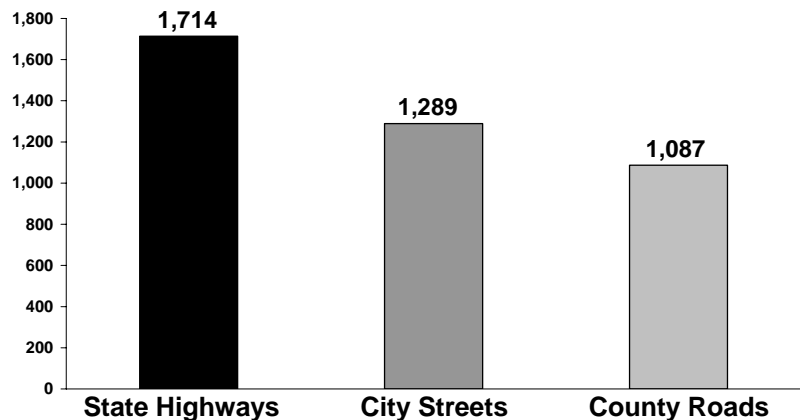


## Societal Costs of Motor Vehicle Collisions in Washington State: 1980 – 2002

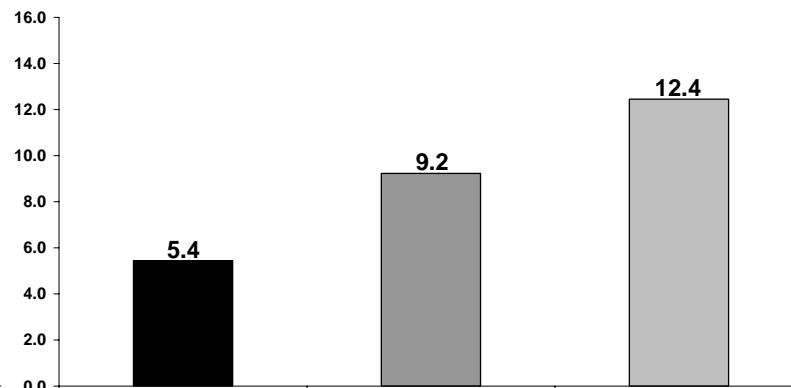
Cost in 2002 Dollars (in Billions)



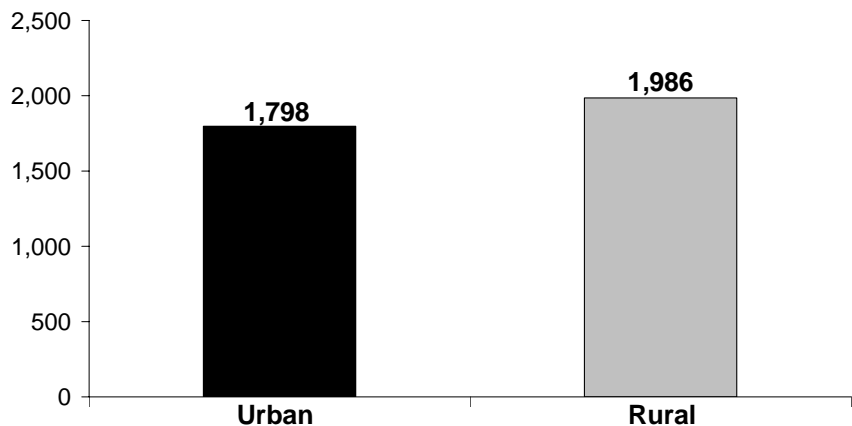
**Number of Motor Vehicle Fatalities and  
Disabling Injury Collisions  
By Roadway Type in Washington State\*  
2002**



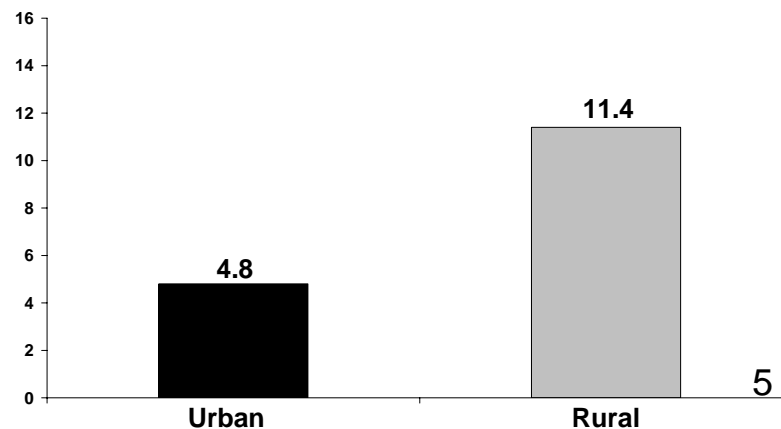
**Rate of Motor Vehicle Fatalities and  
Disabling Injury Collisions  
By Roadway Type in Washington State\*  
Per 100 Million VMT  
2002**



**Number of Fatalities and Disabling Injury  
Collisions  
By Urban and Rural Roadways  
2002**



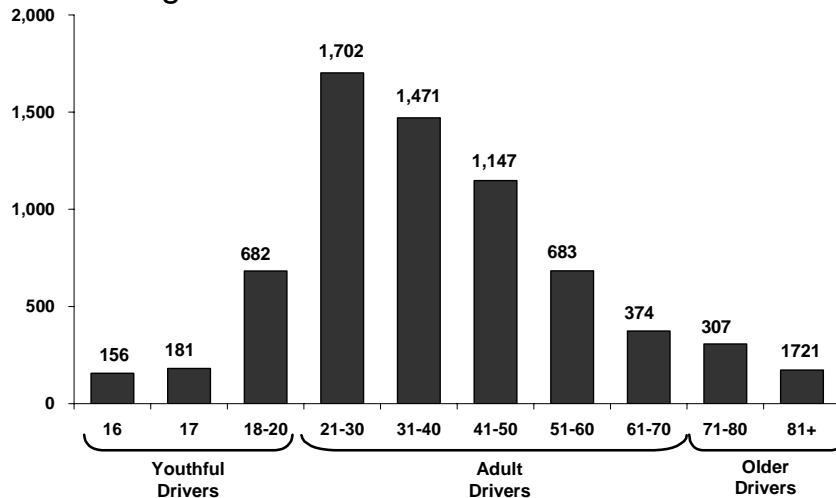
**Rate of Fatalities and Disabling Injury Collisions  
By Urban and Rural Roadways  
Rate Per 100 Million VMT  
2002**



# Age of Drivers

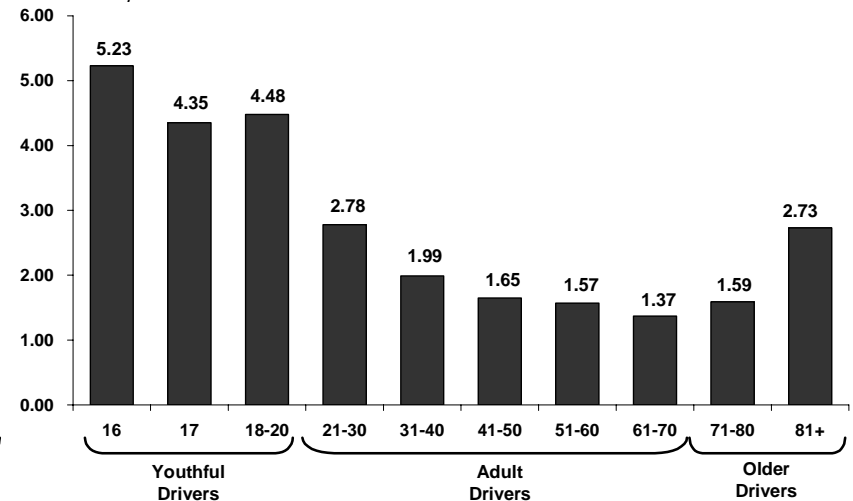
## Number of Drivers Involved in Fatal Collisions by Age Group

Washington State 8-Year Total 1993 - 2000



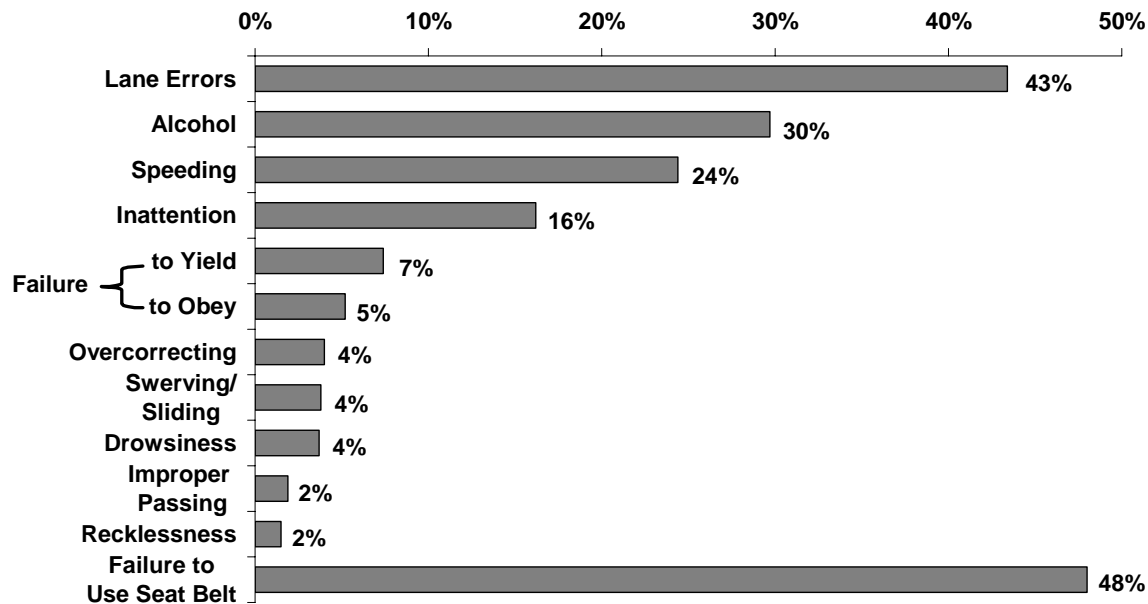
## Rate of Fatal Collisions by Driver Age Group:

Washington State 8-Year Average 1993 – 2000  
Per 10,000 Licensed Drivers



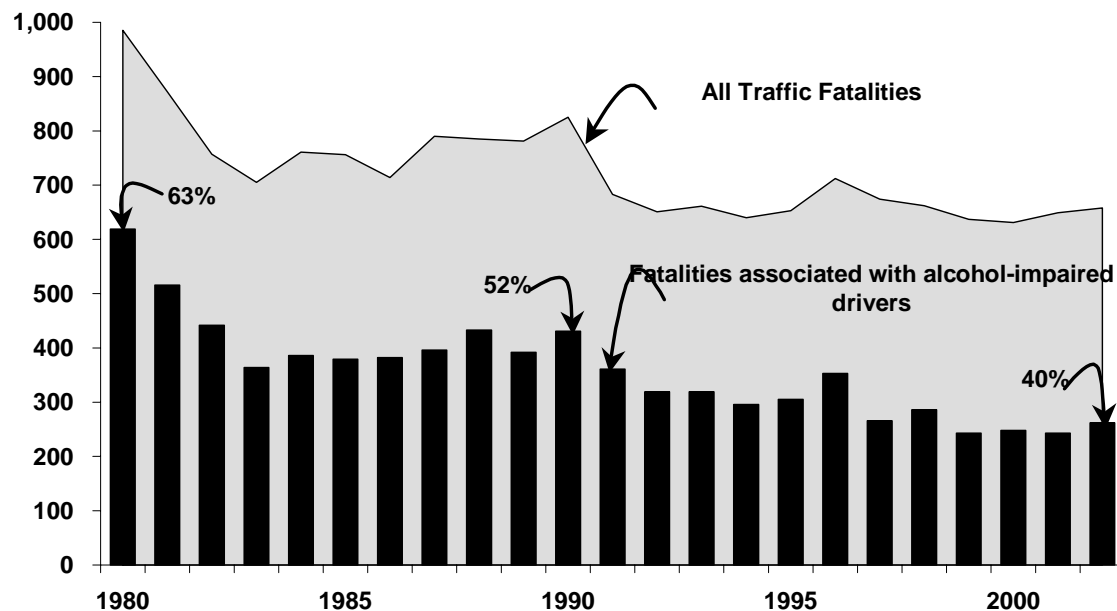
# Driver Errors and Behaviors

## Driver Errors and Behaviors Associated With Fatal Crashes: Washington State 1993 - 2001



# Alcohol Impairment

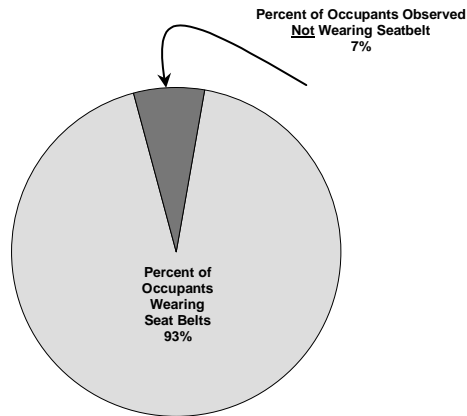
## Trend in Rate of Driver Alcohol Impairment Associated with Motor Vehicle Fatalities in Washington State 1980 - 2002



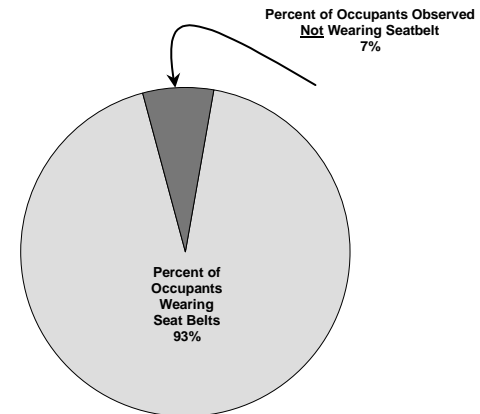


# Not Using Seat Belts

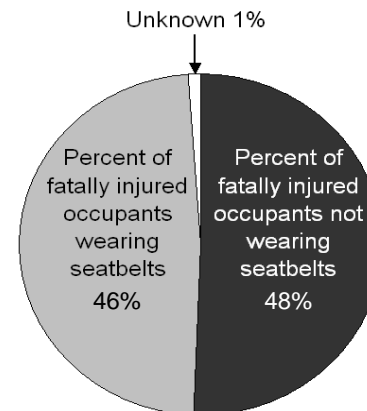
**Observed Public Use of Seatbelts in Washington State 2002**



**Observed Public Use of Seatbelts in Washington State 2002**



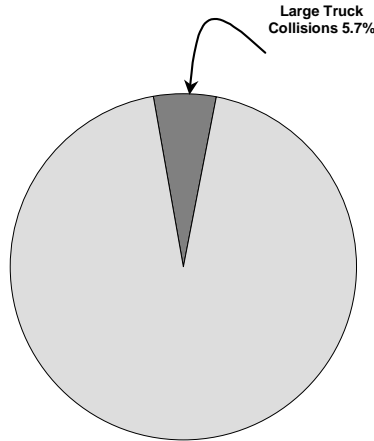
**Fatalities of Users and Non-Users of Seatbelts in Washington State 2002**



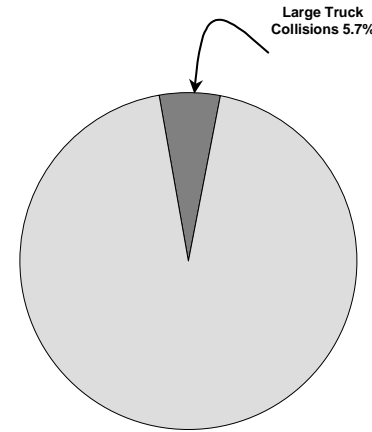
Note: The other 5% occurred in other types of vehicles such as motorcycles and large trucks.

# Types of Road Users – Large Trucks

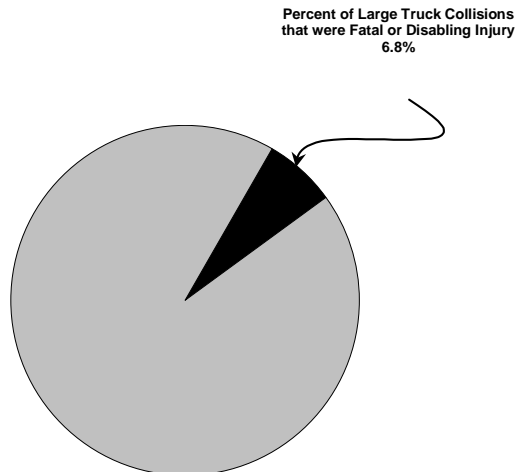
**Percent of All Collisions Involving Large Trucks  
2002**



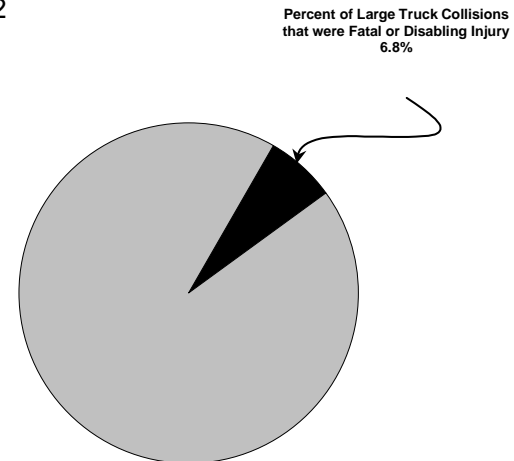
**Percent of All Collisions Involving Large Trucks  
2002**



**Percent of All Fatal and Disabling Injury Collisions  
Involving Large Trucks  
2002**

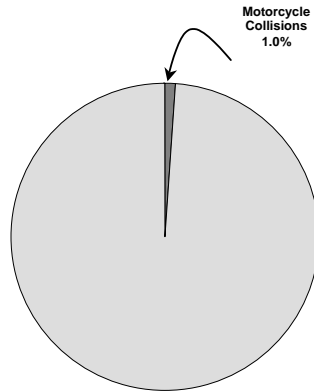


**Percent of All Fatal and Disabling Injury Collisions  
Involving Large Trucks  
2002**

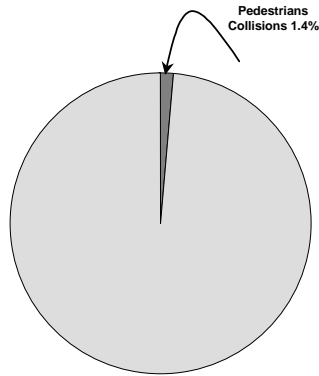


# Types of Road Users – Motorcycles, Pedestrians, and Bicyclists

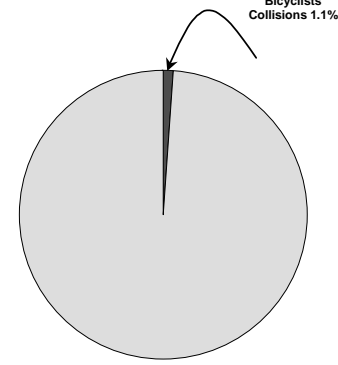
**Percent of All Collisions Involving Motorcycle Collisions**  
2002



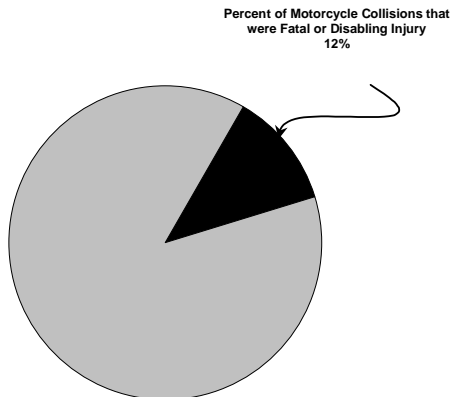
**Percent of All Collisions Involving Pedestrians**  
2002



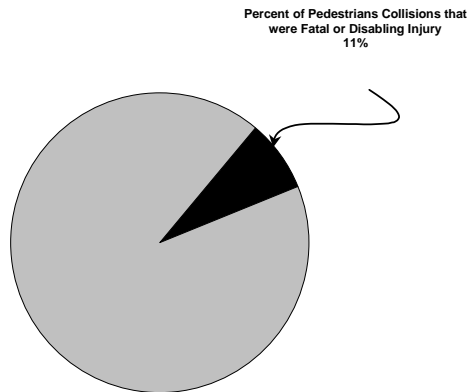
**Percent of All Collisions Involving Bicyclists**  
2002



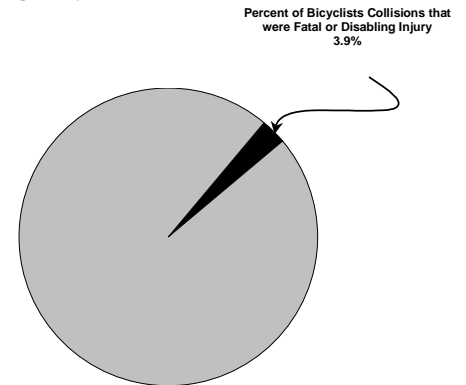
**Percent of All Fatal and Disabling Injury Collisions Involving Motorcycle Collisions**  
2002



**Percent of All Fatal and Disabling Collisions Involving Pedestrians**  
2002

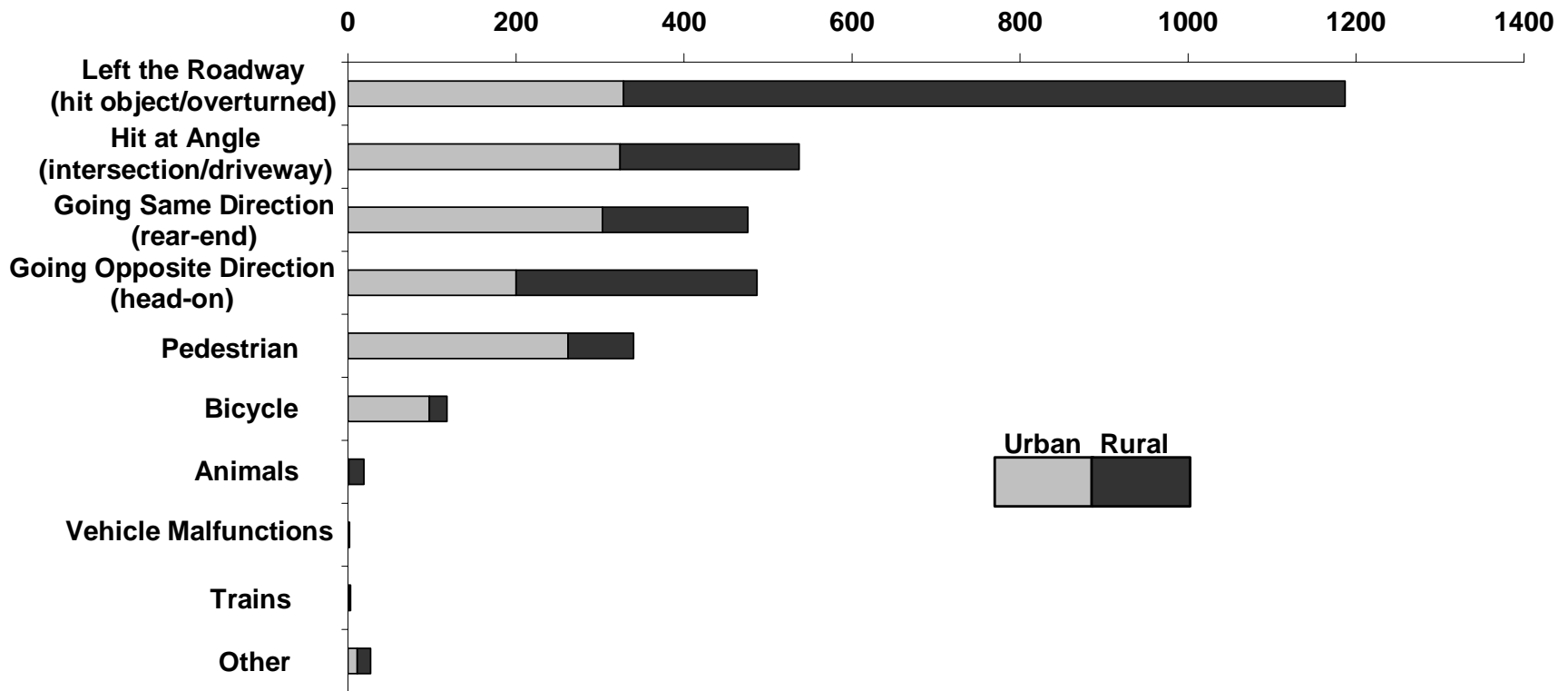


**Percent of All Fatal and Disabling Collisions Involving Bicyclists**  
2002

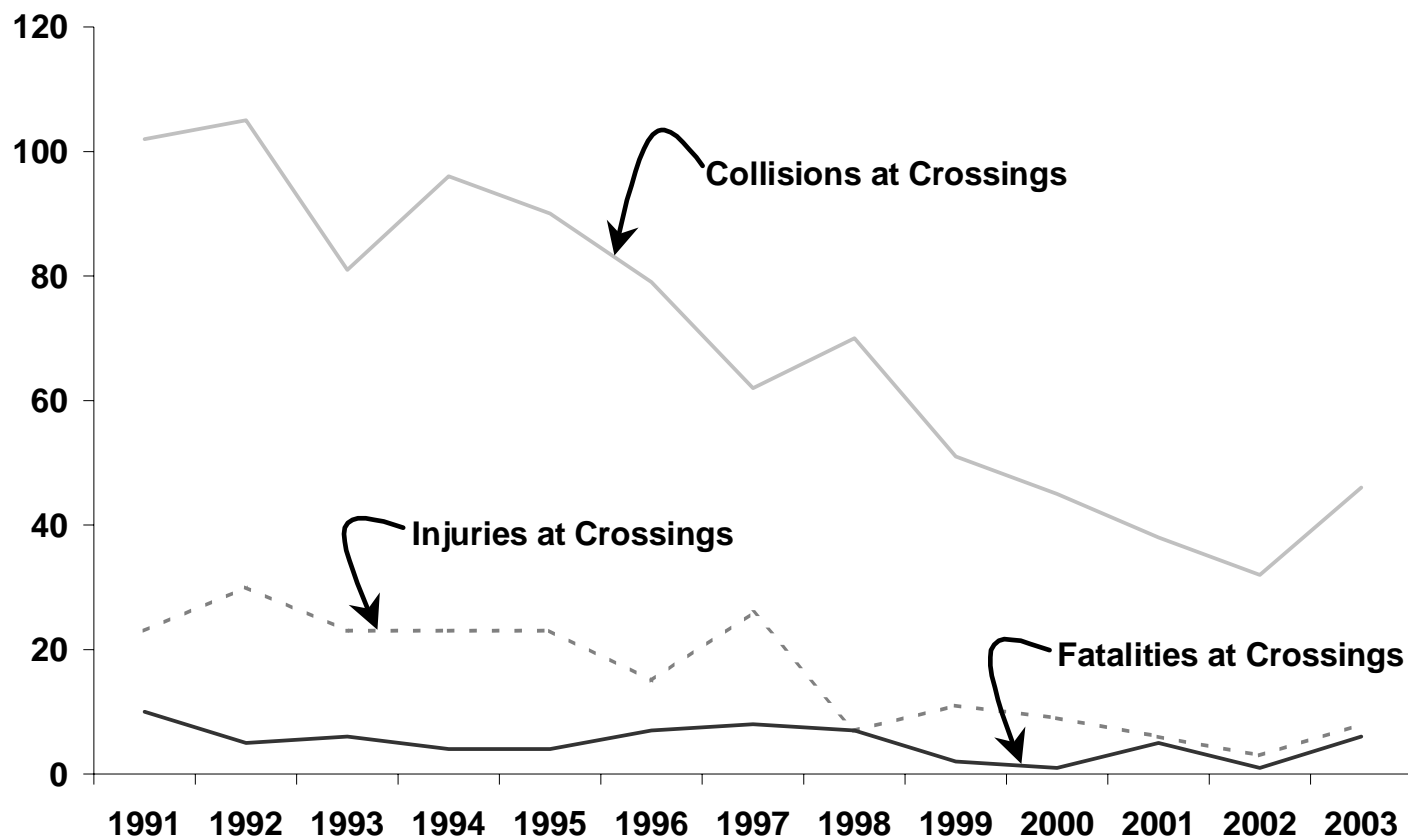


# Roadway Circumstances and Conditions Associated with Fatal and Disabling Injury Collisions

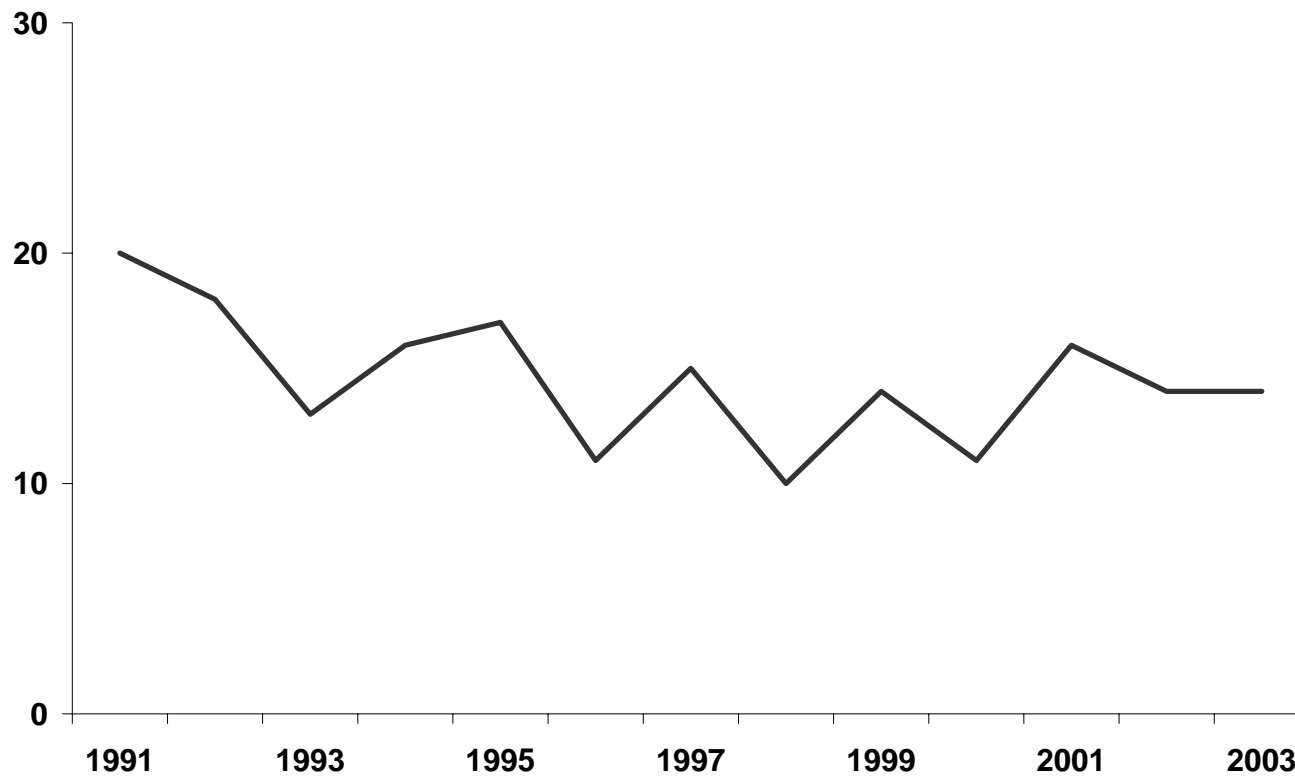
Washington State  
2002



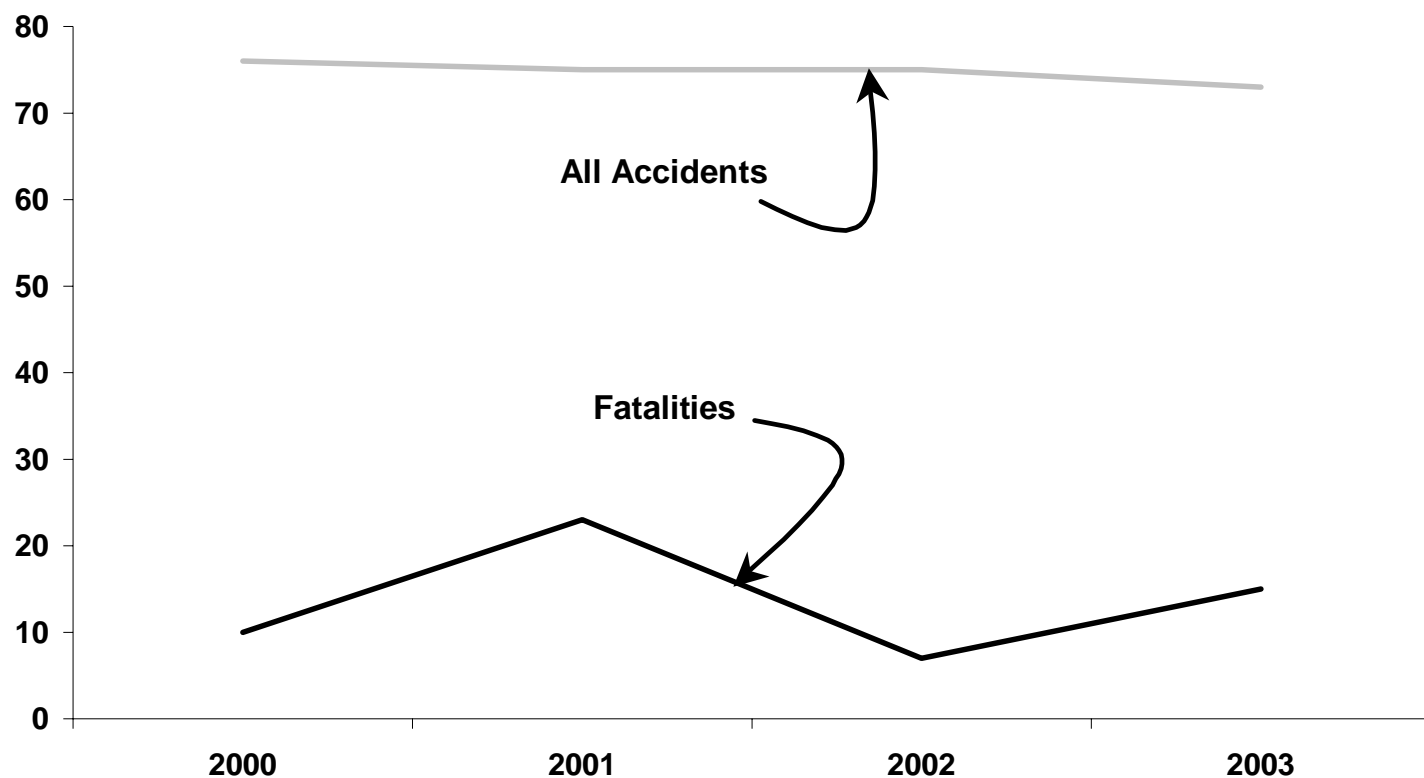
# Rail Road Collisions, Injuries and Fatalities at Crossings in Washington State 1991-2003



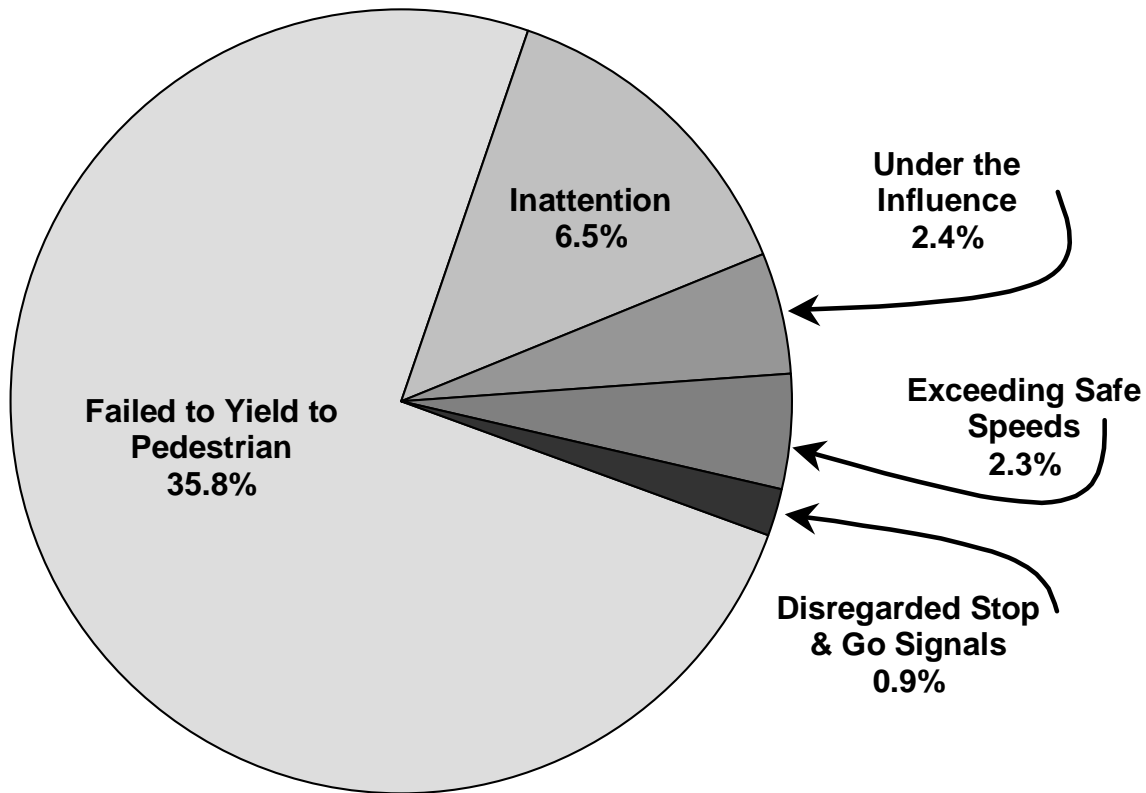
# Number of Fatalities Related to Trespassing on Washington Railroad Properties 1991 - 2003



# General Aviation Accidents in Washington State 2000-2003



# Circumstances Contributing to Pedestrian Accidents in Washington State 1996 - 2001





# Washington State Ferries An Excellent Safety Record

## 2002 Safety Record\*

29 Vessels	10 Routes	20 terminals
25.2 million passengers		
15,192 sailing		
* 100 minor injuries on vessels		
* 33 minor injuries at terminals		

# Topics and Issues in Roadway Safety Workshop Session

**Toby Rickman**

State Traffic Engineer

Washington State Department of Transportation

**Steve Lind**

Acting Director

Washington Traffic Safety Commission



**Washington State  
Department of Transportation**

## **Strategies/Interventions for Improving Roadway Safety**

- User capabilities and behavior
- Roadway conditions
- Enforcement of the laws

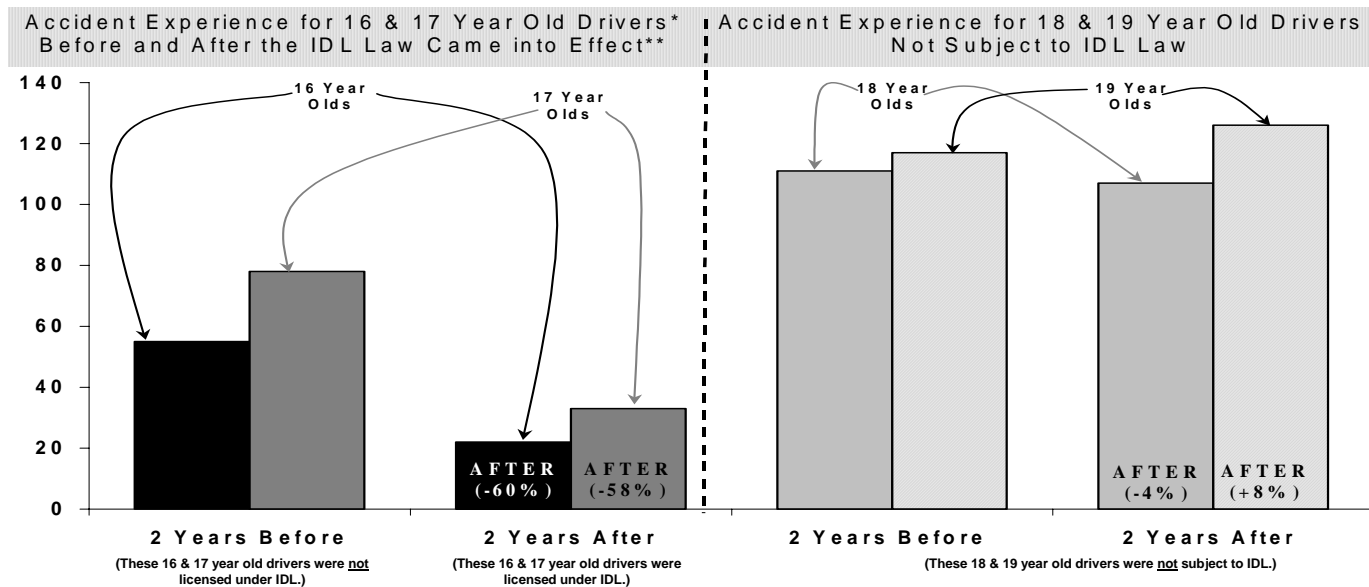
The “Target Zero” approach in Washington State

# User Capabilities and Behavior

- Young drivers

- IDL
- Zero tolerance

Number of Fatal and Disabling Injury Accidents  
for 16 to 19 Year Old Drivers\* Before and After IDL Law\*\*



# User Capabilities and Behavior

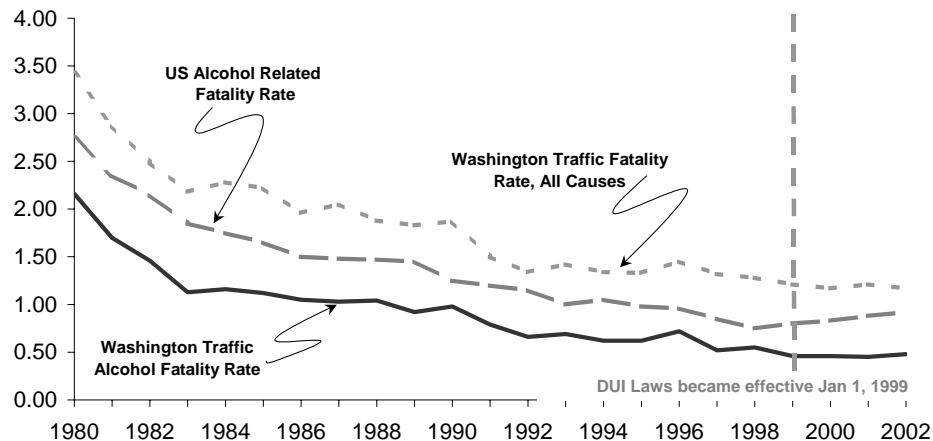
- Older drivers
- Refresher training
- Retesting

# User Capabilities and Behavior

- Impaired drivers
  - “Drive Hammered Get Nailed”
  - Enforcement
    - Sobriety checkpoints
    - Saturation blitz
  - Judicial process
  - DUI courts

## Alcohol-Related Traffic Fatalities

Comparison of Washington's Public Roadway Fatality Rate  
And Alcohol-Related Fatalities Per Million VMT  
1980 - 2002



# User Capabilities and Behavior

- Motorcyclists
  - Education
  - Training
  - Enforcement
  - Rider visibility
  - High helmet use
  - Reduce bogus helmets

# User Capabilities and Behavior

- Large trucks
  - Enforcement
  - Inspections
  - CVISN/WIM



# User Capabilities and Behavior

- Bicyclists
  - Education
  - Training
  - Helmet use
- Pedestrians
  - Pedestrian crossings
  - High accident locations
  - School routes
  - Targeted enforcement

# Roadway Conditions

- Roadway construction improvements
- High accident
  - Locations
  - Corridors
  - At-grade intersections
- Intersections
- Run off road
  - Guardrail
  - Clear zones
  - Rumble strips
- Design for pedestrians and bicyclists

# Roadway Conditions

- Roadway operation improvements
  - Corridor Safety Program
  - Technology
  - Low cost enhancements
  - Variable speed limits
  - Access management
  - Work zones
  - Driver guidance
    - Older drivers
    - Signing and striping

# Enforcement

- Aggressive drivers and speeding drivers
- Enforcement
  - ADAT
  - School zones
- Automated enforcement (photo)
- New law for aggressive driving
- Work zones

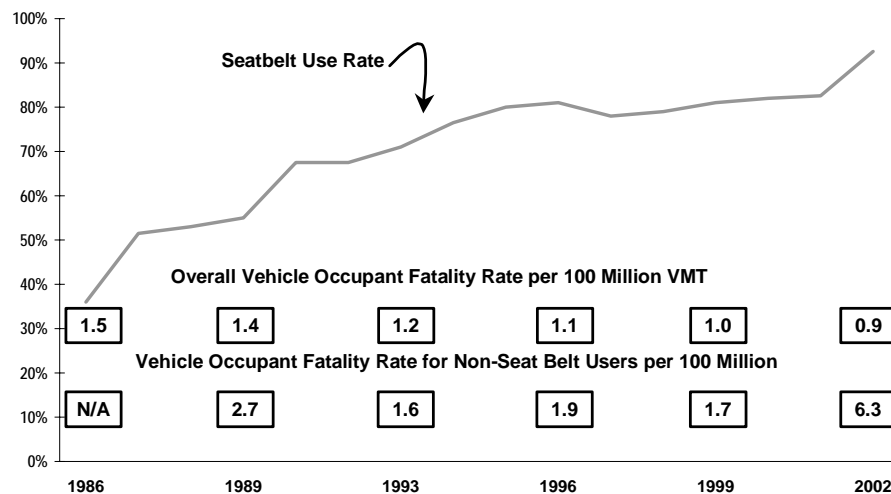
# Enforcement

- Unbelted drivers and passengers

- Primary Seatbelt Law
- “Click It or Ticket”
- Enforcement
- Cultural barriers

## Decreasing Vehicle Occupant Fatality Rates Compared to Increasing Seat Belt Use

Change of Washington Occupant Fatalities per 100 Million VMT and Observed Seatbelt Use 1986-2002



# Enforcement

- Unprotected child passengers
  - Discount car seats
  - 8 or 80 lbs. law
  - Inspection clinics

# Other Strategies, Needs and Opportunities

- Data
  - Data collection
  - Integrate data sources
  - Traffic Records Strategic Plan
  - Link state and local data
  - Traffic Records Committee
  - Surveillance
  - Harden restricted areas
  - Hazardous materials tracking
- Security